

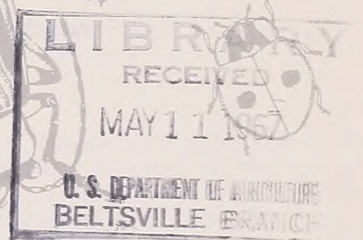
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May 5, 1967

Cooperative
**ECONOMIC INSECT
REPORT**



Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMY CUTWORM and PALE WESTERN CUTWORM caused extensive damage to wheat in areas of Kansas; controls applied. (pp. 359, 361). TOBACCO BUDWORM severe on flue-cured tobacco in Florida. (p. 361). SEED-CORN MAGGOT population above normal in Illinois. (p. 361).

ALFALFA WEEVIL adults heavy in southeast Missouri and Alabama. Larval damage heavy in Maryland and Virginia; populations increasing in Delaware. Reported for first time in several Illinois, Indiana, and Missouri Counties. (p. 362).

COLORADO POTATO BEETLE active on potatoes on Eastern Shore of Virginia and MEXICAN BEAN BEETLE damaging beans in Florida. (p. 364). GREEN PEACH APHID heavy on spinach in Virginia. (p. 365). EUROPEAN RED MITE active in fruit-growing areas of Indiana, Ohio, Delaware, and New Jersey; some controls applied. (p. 367).

HOUSE FLY a major problem in Gainesville, Florida, and some areas of Mississippi and Georgia. (p. 369). Twelve SCREW-WORM cases reported from southern Texas; one case from San Diego County, California. (p. 370).

Detection

Detection Reminder - Three Important Pests of Small Grains. (p. 375)

For new county and island records see page 365.

Predictions

POTATO PSYLLID population low in spring breeding areas of Texas and southeastern New Mexico; seasonal buildup unlikely. (p. 361). STRAWBERRY SPIDER MITE could be a problem on strawberries on Eastern Shore of Virginia. (p. 367). EUROPEAN PINE SAWFLY expected to be damaging in Ohio and Lower Michigan. TULIPTREE SCALE expected to be heavy on yellow-poplar in Ohio. (p. 369). GRASSHOPPERS not expected to be a problem in North Dakota. (p. 370).

Some First Occurrences of the Season

CORN EARWORM adults in Oklahoma. MEXICAN BEAN BEETLE adults in Florida and Georgia. IMPORTED CABBAGEWORM adults in Michigan. CODLING MOTH adult and LESSER PEACH TREE BORER males in Indiana. WESTERN GRAPE LEAF SKELETONIZER adults in Nevada.

Special Reports

Insects Not Known to Occur in the United States

STONE-FRUIT TREE BORER (*Cerambyx dux* (Faldermann)). (p. 373).

Distribution of Vetch Bruchid (Map). (p. 376).

Reports in this issue are for week ending April 28 unless otherwise indicated.

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WEATHER BUREAU'S 30-DAY OUTLOOK - MAY

The Weather Bureau's 30-day outlook for May calls for temperatures to average below seasonal normals in a broad area extending from the Great Lakes through the northern and central Plains and into the southwest quarter of the Nation. Near to above normal temperatures are indicated for the Pacific Northwest. Above normal temperatures are predicted in the South. In areas not specified temperatures are expected to average near seasonal normals except for below normal in New England. Precipitation is expected to total less than normal along the Pacific coast as well as in southern border and south Atlantic Coast States. On the other hand heavy precipitation is indicated over the northern two-thirds of the Nation extending from the intermountain area to the Atlantic seaboard.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price \$5.00 a year. For Weather of the week see page 372.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - ARKANSAS - Few fields infested in Desha and Chicot Counties; larvae about 1-inch long and ranged 2-4 per square foot. None in Jackson County. (Ark. Ins. Sur.). MISSOURI - Remains low in small grains in southeast area. (Munson). MICHIGAN - Adults taken at Livingston and Clinton County blacklight stations. (Dowdy). VIRGINIA - Moths taken in blacklight trap on Eastern Shore. (Hofmaster). DELAWARE - Adults averaged one per night in blacklight trap collections in Sussex County. (Burbutis).

ARMY CUTWORM (*Chorizagrotis auxiliaris*) - KANSAS - Ranged 4-10 per square foot of wheat in Finney County. Damage extensive; controls being applied. (Gates).

TOBACCO BUDWORM (*Heliothis virescens*) - FLORIDA - Severe on flue-cured tobacco throughout Hamilton County. (Andrews, Clark).

CORN EARWORM (*Heliothis zea*) - OKLAHOMA - First adults of season on alfalfa in Jackson County April 14; no eggs or larvae found. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEVADA - Light, spotted infestations on alfalfa in Pahrump Valley, Nye County. (Zoller). ARIZONA - Increasing but still light on alfalfa in Cochise County. (Ariz. Coop. Sur.). NEW MEXICO - Very light on alfalfa in Chaves County. (Mathews, Nielsen). OKLAHOMA - Heavy on alfalfa in Mayes County; light to moderate in Garvin County. (Okla. Coop. Sur.).

GREENBUG (*Schizaphis graminum*) - KANSAS - Trace numbers continue on most wheat in northeast, north-central, and central districts. Numbers decreased during past 14 days. (Simpson). MINNESOTA - Trace numbers found in roadside grasses in central and east-central districts. (Minn. Ins. Rpt.).

CORN LEAF APHID (*Rhopalosiphum maidis*) - ARIZONA - Increasing on barley in Maricopa County; controls necessary to protect barley heads. (Ariz. Coop. Sur.). MISSISSIPPI - Alates present on 40 percent of Johnson grass infected with mosaic virus. Approximately 1-5 alates per infected plant. Alates present on less than one percent of 2-week-old corn in Yazoo County; however, mosaic virus present in young corn. Aphid buildup expected with increased migration to corn plants. (Dinkins).

SIX-SPOTTED LEAFHOPPER (*Macrostelus fascifrons*) - MINNESOTA - Ranged 0-30 per 100 sweeps of rye, grassy alfalfa, and roadside grass in central and east-central districts. (Minn. Ins. Rpt.). MICHIGAN - Adults per 100 sweeps of wheat 3 in Livingston County, 5 in Ingham County, and 19 in Washtenaw County. (Dowdy).

Potato Psyllid Survey, Spring Breeding Areas of Texas and Southeastern New Mexico

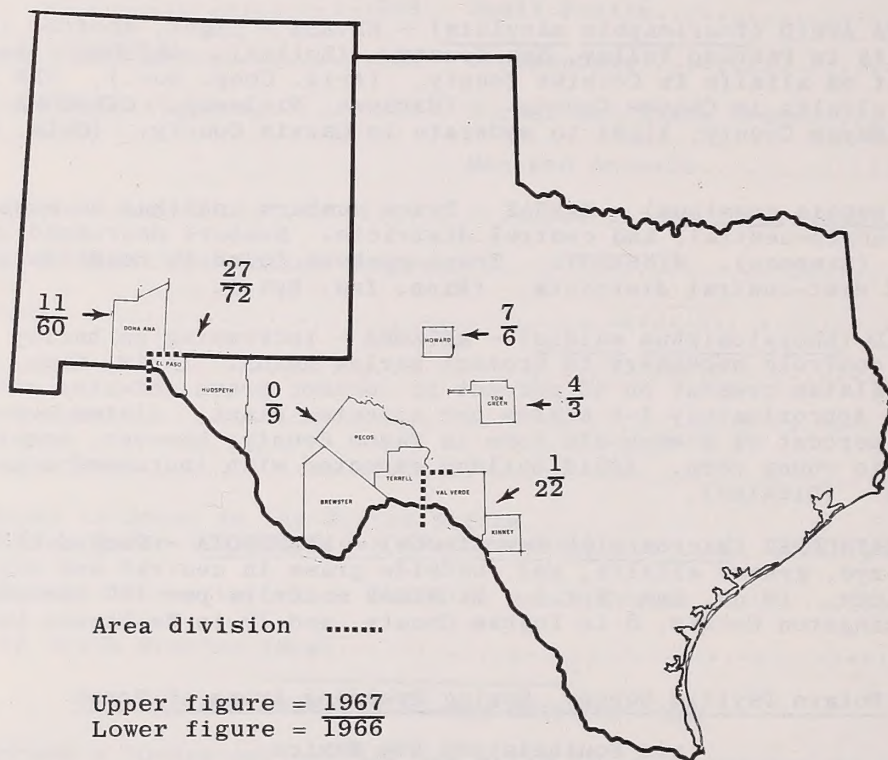
The potato psyllid (*Paratrioza cockerelli*) survey in Texas and southeastern New Mexico was completed April 4, 1967. The condition of wild *Lycium* host plants varied considerably in all areas except El Paso, where irrigation contributed to uniform growth and leafing. Potato psyllid populations decreased markedly in the Del Rio, Marathon-Sanderson, El Paso, and Las Cruces areas, but remained about the same as 1966 in the Big Spring and San Angelo sampling areas. The winter was unusually cold in the Del Rio, Marathon-Sanderson vicinities with snow on one occasion. Other than this snowfall, all psyllid sampling areas were severely affected by drought conditions. Eggs were completely absent in three areas and very scarce in the other two areas. The potato psyllid population is low this year and a seasonal buildup in these areas is unlikely.

See table and map on page 360.

Potato Psyllid Survey on Overwintering Hosts

Average Number Per 100 Sweeps

<u>State</u>	<u>District</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
Texas	Big Spring (Howard County)	48	6	7
Texas	San Angelo (Tom Green County)	14	3	4
Texas	Del Rio (Val Verde and Kinney Counties)	30	22	< 1
Texas	Marathon-Sanderson (Terrell, Pecos, and Brewster Counties)	15	9	0
Texas	El Paso (El Paso and Hudspeth Counties)	31	72	27
New Mexico	Las Cruces (Dona Ana County)	6	60	11



CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - MISSOURI - Winter survival in north-west area estimated to be 75 percent. (Munson). IOWA - Overwintering mortality averaged 17.6 percent this year compared with 17.7 percent last year. Percent mortality by area as follows: Northwest 11, northeast 18, central 10, southwest 39, southeast 10. (Iowa Ins. Sur.). WISCONSIN - Overwintering larvae active and boring in cornstalks. (Wis. Ins. Sur.). OHIO - Small numbers pupating in Muskingum County. (Rose). DELAWARE - Approximately 45 percent pupation in south Kent and Sussex Counties. (Burbutis).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - This and Feltia subterranea caused 95 percent reduction of 30-acre stand of 2-inch field corn at High Springs, Alachua County; replanting necessary. (Strayer).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Larvae light on 45 acres of field corn at Alachua, Alachua County. (Strayer).

CUTWORMS - MISSISSIPPI - Damage light to moderate on 3-week-old corn in Yazoo County. (Dinkins).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - MISSISSIPPI - Pupation of overwintering generation underway in Oktibbeha County; no adult emergence observed. (Dinkins). SOUTH CAROLINA - Damaged up to 60 percent of corn planted on black soil near Charleston. Chlorinated hydrocarbons did not control infestation. (Nettles et al.).

FLEA BEETLES - GEORGIA - Moderate on sweet corn in Jasper County. (Tanner). NEW YORK - Two specimens of Chaetocnema pulicaria collected in 400 sweeps of 7-inch rye in Hudson Valley near New Paltz. (Adams, Apr. 21).

SUGARCANE BEETLE (Euetheola rugiceps) - GEORGIA - Cutting small corn plants in Henry County. (Pipkin).

BILLBUGS - GEORGIA - Light to heavy on corn in Baker, Tift, and Worth Counties. (Drennon et al.).

A LEAFHOPPER (Graminella nigrifrons) - MISSISSIPPI - Approximately 1-2 per plant on week-old corn in Yazoo County. (Dinkins).

CHINCH BUG (Blissus leucopterus) - MISSISSIPPI - Very light on 3 to 4-week-old corn in Yazoo County. (Dinkins).

SEED-CORN MAGGOT (Hylemya platura) - ILLINOIS - Adult population above normal at Champaign. (Broersma).

SMALL GRAINS

GRAIN APHIDS - CALIFORNIA - Rhopalosiphum padi medium on 5 acres of oats at Live Oak, Sutter County. (Cal. Coop. Rpt.). MINNESOTA - Macrosiphum avenae extremely light in central and east-central areas; averaged 5 per 200 sweeps in most rye and roadside grasses; one field of rye had 10 per 100 sweeps in Scott County. (Minn. Ins. Rpt.). WISCONSIN - Up to 10 M. avenae per 25 sweeps in Arena area, Sauk County. Very scarce or absent in fields surveyed in Marquette and Waushara Counties. (Wis. Ins. Sur.). VIRGINIA - Unspecified species building up on barley and rye and Northumberland County. (Rowell).

A LEAFHOPPER (Graminella nigrifrons) - MISSISSIPPI - Building up on small grains and grasses in Yazoo County. (Dinkins).

PALE WESTERN CUTWORM (Agrotis orthogonia) - KANSAS - Ranged 4-10 per square foot in wheat in Haskell and Kearny Counties. Damage extensive, controls being applied. (Gates).

BROWN WHEAT MITE (Petrobia latens) - COLORADO - Ranged 1-2 per leaf in Weld and Larimer Counties. Recent rains reduced evidence of feeding. (Jenkins).

TWO-SPOTTED SPIDER MITE (Tetranychus urticae) - COLORADO - All stages on winter wheat near Sterling, Logan County; populations low, 3 per plant causing slight damage. (Hantsbarger).

TURF, PASTURES, RANGELAND

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - CALIFORNIA - Larvae and adults heavy on grassland at Lemoore, Kings County. (Cal. Coop. Rpt.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEVADA - Cool weather retarded weevil activity and egg laying at Fallon area of Churchill County and other counties. (Coop. Rpt.). Adults active on warm days at Fallon; averaged 4-6 per crown in some fields. Small numbers of eggs also present. (Hilbig). COLORADO - Adults per 10 sweeps: 3 in Weld County and 4 in Larimer County. (McLaughlin, Jenkins). KANSAS - Averaged 1 larva per tip of alfalfa in Finney County; 3 per 10 sweeps in Haskell and Kearny Counties. (Bates). MISSOURI - Adult emergence continued heavy in extreme southeast area. (Jones). Collected for first time in Boone, Cooper, and Moniteau Counties. (Peters). Adults and larvae collected from vetch in southeast area. (Munson). ILLINOIS - Damage moderate in southern third of State; many fields treated. Many adults present. Larval counts remain 20-30 per sweep in east-southeast district. Found in Lee County for first time. (Moore et al.). INDIANA - Reported for first time in Blackford, Wells, Huntington, Wabash, Grant, Kosciusko, Marshall, and Fulton Counties. Mating common during day in northern counties of central district. (Huber). OHIO - Larvae light on alfalfa in north-central area. Considerably higher, 33 per sweep, in a Muskingum County field; all instars present. (Rose). VIRGINIA - Appeared more than 2 weeks earlier than in 1966 at Shenandoah Research Station, Rockbridge County. Unsprayed alfalfa now gray or brown. (Woodside). MARYLAND - Larval damage on alfalfa medium to heavy in Kent and Prince Georges Counties. Development retarded somewhat by low temperatures. (U. Md., Ent. Dept.). DELAWARE - Building up in Kent and Sussex Counties; control required in some fields. (MacCreary). ALABAMA - Unusually numerous adults emerged from white clover and burclover on lawns and fields in Madison and other northern counties. Severe on these clovers and light to medium on crimson clover and hairy vetch throughout State. Heavy adult migration from burclover at one location in Madison County alarmed cotton grower. (Magnusson et al.).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - CALIFORNIA - Larvae, probably this species, on sweetclover at Santee, San Diego County. (Cal. Coop. Rpt.).

CLOVER LEAF WEEVIL (Hypera punctata) - GEORGIA - Larvae light on clover in Harris County. (Salter, Nolan). ILLINOIS - Larvae decreasing in southern districts; various instars in east district ranged 0-12 per square foot; ranged 0-10 per square foot in west and northwest districts. (Moore, Kuhlman). WISCONSIN - Third and fifth instars as high as 5 per plant in southwest counties; damage noticeable in many fields. (Wis. Ins. Sur.). IDAHO - Feeding damage minor in several clover fields in Boundary County. (Studer).

PEA APHID (Acyrtosiphon pisum) - CALIFORNIA - Medium on vetch at Yuba City, Sutter County. (Cal. Coop. Rpt.). NEVADA - Heavy on 1,000-2,000 acres of alfalfa in Smith Valley, Lyon County. Many plants discolored; growth severely retarded; some plants possibly killed. Appearing in Mason Valley, Lyon County; insecticide applications underway or planned. Predator and parasite populations low. (Batchelder). A. pisum averaged 10 per sweep in Pahrump Valley, Nye County, alfalfa. (Zoller). NEW MEXICO - Continues light in alfalfa in Socorro, Valencia, and Chaves Counties. (Mathews et al.). OKLAHOMA - Heavy on Mayes County alfalfa. Moderate on alfalfa in Cleveland County and on alfalfa and vetch in Bryan County. (Okla. Coop. Sur.). KANSAS - Counts in alfalfa as follows: 100-600 per 25 sweeps in Sedgwick, Harvey, Marion, and McPherson Counties (Reeding); 1,000 per 10 sweeps in Riley County (Berry); light in southwest district (Gates); averaged less than 100 per 10 sweeps in Republic, Jewell, Smith, Phillips, Rooks, and Osborne Counties. Predators and parasites still light but increasing. (Simpson). MISSOURI - Counts range from 20-1,000 per 10 sweeps in central area (Peters) to 20-80 per sweep in northwest area (Thomas).

ILLINOIS - Remains same or higher than last period. Counts per sweep ranged 300-400 in west-southwest district, 40-200 in east-southeast district, and 1-15 in east district. (Moore, Kuhlman). WISCONSIN - Ranged 1-64 per sweep throughout southern area. Parasitism as high as 50 percent in some fields; mummies increasingly evident. (Wis. Ins. Sur.). MINNESOTA - Occasional specimen found in alfalfa. (Minn. Ins. Rpt.). MARYLAND - Unusually light on alfalfa in Kent and Prince Georges Counties. (U. Md., Ent. Dept.). DELAWARE - Increasing in most areas. (MacCreary).

TARNISHED PLANT BUG (Lygus lineolaris) - KANSAS - Remains light, 1-10 per 10 sweeps in all areas. (Simpson). MISSOURI - On most alfalfa checked. Ranged 5-10 per 10 sweeps in northwest area. (Munson).

LYGUS BUGS (Lygus spp.) - ARIZONA - Adults light but increasing on alfalfa in Maricopa and Yuma Counties. (Ariz. Coop. Sur.). NEW MEXICO - Average counts per 25 sweeps of alfalfa by county as follows: Chaves 4-6 adults, 3-5 nymphs; Socorro 2-3 adults; Dona Ana 4-7 adults, 12-28 nymphs. (Kloepfer et al.). COLORADO - Adults increasing, 5-15 per 10 sweeps; damage unapparent. (Jenkins). MINNESOTA - Counts ranged 5-40 per 100 sweeps of alfalfa in central and east-central districts. (Minn. Ins. Rpt.).

MEADOW SPITTLEBUG (Philaenus spumarius) - WISCONSIN - Nymphs 0-16 per 10 alfalfa stems in southern counties. (Wis. Ins. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Averaged 0-4 adults per 25 sweeps of alfalfa in Chaves County (Mathews); 1 per 25 sweeps in Socorro County (Kloepfer).

BLACK CUTWORM (Agrotis ipsilon) - VIRGINIA - Moths taken in blacklight trap on Eastern Shore. (Hofmaster). MICHIGAN - Adults taken in light traps in Livingston and Clinton Counties. (Dowdy). WISCONSIN - Few moths caught in blacklight trap at Madison, Dane County. (Wis. Ins. Sur.).

VARIEGATED CUTWORM (Peridroma saucia) - VIRGINIA - Moths taken in blacklight trap on Eastern Shore. (Hofmaster). WISCONSIN - Few moths caught in blacklight trap at Madison, Dane County. (Wis. Ins. Sur.).

NOCTUID MOTHS (Heliothis spp.) - ALABAMA - Fifth and sixth instars heavy, 1 per sweep, on crimson clover in several Barbour County pecan orchards. Few first and second instars present in Lee County. H. zea adults numerous in St. Elmo area of Mobile County. (Diller et al.).

ALFALFA CATERPILLAR (Colias eurytheme) - KANSAS - Light in most north-central area alfalfa. (Simpson).

GARDEN WEBWORM (Loxostege similalis) - ARIZONA - Light numbers appearing in alfalfa in areas of the Yuma Valley, Yuma County. (Ariz. Coop. Sur.).

COTTON

BOLLWORMS (Heliothis spp.) - ALABAMA - Fifth and sixth instars heavy in crimson clover in several Barbour County pecan orchards; averaged one per sweep or 45,000 per acre. Few first and second instars observed in Lee County. Numerous H. zea adults flying in St. Elmo area, Mobile County. (Diller et al.).

VARIEGATED CUTWORM (Peridroma saucia) - ARKANSAS - Few fields of cotton in Desha County damaged. (Ark. Ins. Sur.).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Light to moderate in Maricopa and Pinal Counties. Damage apparent in a few fields. (Ariz. Coop. Sur.).

COTTON APHID (Aphis gossypii) - ARIZONA - Cool weather reduced activity in Yuma County. (Ariz. Coop. Sur.).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults light in beds at Aquasco, Prince Georges County. (U. Md., Ent. Dept.).

SUGARBEETS

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - COLORADO - Pupae have not developed as expected due to recent wet, cool weather; ranged 5-18 per square foot in Weld County. Adults continue to emerge southeast of Berthoud. (Alldredge et al.).

FLEA BEETLES - COLORADO - Larvae continue to reduce stands in Weld and Larimer Counties. (Alldredge, Hantsbarger).

MISCELLANEOUS FIELD CROPS

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae increasing on safflower throughout Maricopa County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Adults light but increasing on safflower in Maricopa and Yuma Counties. (Ariz. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - VIRGINIA - Adults active on potato seedlings on Eastern Shore. Mating observed but no eggs found. (Hofmaster). FLORIDA - All stages throughout tomato-growing areas of Alachua, Putnam, and Marion Counties. (Graham, Apr. 21). OKLAHOMA - Light to moderate on home garden potatoes in Cleveland County. (Okla. Coop. Sur.).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - ARKANSAS - Damaged tomatoes in Lincoln County. (Ark. Ins. Sur.).

LEAF-FOOTED BUG (Leptoglossus phyllopus) - ALABAMA - Adults heavy along edges of potato fields in St. Elmo area, Mobile County. (McQueen).

LEAF MINER FLIES (Liriomyza spp.) - FLORIDA - Larvae more abundant and more damaging than in recent years to tomato transplants in Marion County. (Graham, Apr. 15).

BEANS AND PEAS

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Damage to foliage of peas, lima beans, and snap beans heavy in gardens for past 2 weeks in Oktibbeha County. Treatment necessary in many gardens. (Dinkins).

MEXICAN BEAN BEETLE (Epilachna varivestis) - FLORIDA - Adults present but causing no damage to string beans at truck garden in southeast Columbia County. First occurrence in this part of county. (Graham, Apr. 22). GEORGIA - Overwintering adults on string beans in Dougherty County. (Osburn).

SEED-CORN MAGGOT (Hylemya platura) - GEORGIA - Heavy on lima bean seed in Jackson County. (Welborn).

COLE CROPS

CABBAGE CURCULIO (Ceutorhynchus rapae) - VIRGINIA - Adult feeding damage extensive to cabbage on Eastern Shore. (Hofmaster).

IMPORTED CABBAGEWORM (Pieris rapae) - MICHIGAN - First flight of season noted April 26 in Ingham and Washtenaw Counties. (Newman).

ROOT MAGGOTS (Hylemya spp.) - GEORGIA - Heavy on cabbage roots in Polk County. (Stowe).

CUCURBITS

STRIPED CUCUMBER BEETLE (Acalymma vittatum) - MISSOURI - Heavy on watermelons in southeast area. Chemical controls applied in some instances. (DiCarlo).

GENERAL VEGETABLES

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - CALIFORNIA - Larvae heavy on spinach leaves in Buellton, Santa Barbara County. (Cal. Coop. Rpt.).

ARIZONA - Heavy numbers damaging vegetables in Phoenix area, Maricopa County. (Ariz. Coop. Sur.). ALABAMA - Medium and widespread in Fayette County gardens. (Pitts).

A WIREWORM - IDAHO - Numerous enough to damage roots of carrot seed-stecklings in field near Caldwell, Canyon County. Field in red clover in 1966. (Bechtolt).

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - Medium on acre of radishes at Fresno, Fresno County. (Cal. Coop. Rpt.). VIRGINIA - Heavy on spinach on Eastern Shore; control poor. Warm days in March produced present heavy infestation. Dead aphids stuck to leaves by a fungus more damaging than live aphids; will not wash off. (Hofmaster).

ROOT MAGGOTS (Hylemya spp.) - GEORGIA - Heavy on onion roots in Polk County. (Stowe).

INSECT DETECTION

New County and Island Records

ALFALFA WEEVIL (Hypera postica) - ILLINOIS - Lee County. INDIANA - Blackford, Fulton, Grant, Huntington, Kosciusko, Marshall, Wabash, and Wells Counties. MISSOURI - Boone, Cooper, and Moniteau Counties. (p. 362).

A PLATASPID BUG (Coptosoma xanthogramma) - HAWAII - Found for first time on Hawaii Island. (p. 371).

CORRECTIONS

CEIR 17(16):313 - A MEALYBUG (Antonina pretiosa) - CALIFORNIA - Delete note. Should read: Medium on golden bamboo nursery stock at San Jose, Santa Clara County. (Cal. Coop. Rpt.).

CEIR 17(17):350 - MOSQUITOES - LOUISIANA - Psorophora ciliata should read Psorophora ciliata.

DECIDUOUS FRUITS AND NUTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) - ALABAMA - First-generation larvae light to medium and killing first 1-3 inches of new growth on several peach trees in Lee County. (McQueen). INDIANA - Bait trap collections declined to 9 from 22 collected previous week in Vincennes area. (Dolphin, Apr. 24).

CODLING MOTH (Carpocapsa pomonella) - INDIANA - First adult (male) of season collected in virgin-female trap April 17 in Vincennes area. Total of 32 males collected in 2 traps, each containing 5 laboratory-reared females. (Dolphin, Apr. 24).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - WISCONSIN - Larvae boring apple buds in Madison area, Dane County. (Wis. Ins. Sur.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - INDIANA - Total of 18 males taken in 2 virgin-female traps in unsprayed orchard at Vincennes. (Dolphin, Apr. 24).

AMERICAN PLUM BORER (Euzophera semifuneralis) - INDIANA - Total of 31 taken from field cage containing 10 cords of peach wood in Vincennes area. (Dolphin, Apr. 24).

LESSER PEACH TREE BORER (Synanthedon pictipes) - INDIANA - First males of season captured in orchard April 20 in Vincennes area; 60 virgin-female traps attracted 19 males. Total of 50 males caught during week ending April 24. (Dolphin).

PEACH TWIG BORER (Anarsia lineatella) - COLORADO - Third to fourth instars present; pupation beginning in peach orchards. Population light to moderate. (Bulla).

CIGAR CASEBEARER (Coleophora serratella) - WISCONSIN - Observed on untended apple trees in Madison area, Dane County. (Wis. Ins. Sur.). GEORGIA - Light on pecans in Dougherty County. (Harris).

PECAN CASEBEARERS (Acrobasis spp.) - ALABAMA - First pupation and adult emergence of A. caryae for year observed on unprotected pecan orchard in Barbour County; infestation very light. A. juglandis larvae light to medium and about to pupate in pecans in Barbour County. (Walton et al.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Numerous larvae observed in old pecan shucks on ground and in trees in several Barbour County orchards, about to pupate. (Walton et al.).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - First and second instars observed on isolated pecan trees in Baldwin and Barbour Counties. (Wilson et al.).

PLUM CURCULIO (Conotrachelus nenuphar) - OKLAHOMA - Light on wild plums in Payne County. (Okla. Coop. Sur.).

ROSE CHAFER (Macrodactylus subspinosus) - OKLAHOMA - Damaging pecan blossoms in Seminole County. (Okla. Coop. Sur.).

SHOT-HOLE BORER (Scolytus rugulosus) - COLORADO - Pupae and adults ranged 40-50 per 16 inches of 1-inch diameter apple limb in Pueblo, Pueblo County. (Hantsbarger, Thatcher).

PECAN APHIDS (Monellia spp.) - ALABAMA - Yellow species light but increasing on leaves of unprotected pecan trees in Barbour and other central counties. Few recurring infestations noted in orchards where insecticides applied. (Walton et al.).

SPITTLEBUGS - GEORGIA - Adults moderate on pecans. (Fletcher).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - GEORGIA - Heavy on peach tree in Bartow County. (Holland). First generation eggs observed March 15 in Barney, Brooks County, and March 21 in Fort Valley, Peach County. First crawlers observed March 22 in Barney and April 4 in Fort Valley. (Jacklin).

PECAN LEAFROLL MITE (Aceria caryae) - ALABAMA - First infestation of year observed on pecan tree in Barbour County; infestation very light. (Walton et al.).

TWO-SPOTTED SPIDER MITE (Tetranychus urticae) - INDIANA - All stages present in trace numbers in samples from commercial orchards in Vincennes area. (Dolphin, Apr. 24).

EUROPEAN RED MITE (Panonychus ulmi) - INDIANA - Populations dependent on spray schedules; range from nearly zero to high of 2.5 mobile forms per leaf in commercial orchards sampled in Vincennes area. (Dolphin, Apr. 24). OHIO - Eggs beginning to hatch in north-central area. (Rose). DELAWARE - Hatching observed April 20 near Dover. (MacCreary). NEW JERSEY - Controls applied on apples in southern and central areas. (Ins.-Dis. Newsltr.).

CITRUS

SIX-SPOTTED MITE (Eotetranychus sexmaculatus) - FLORIDA - Heavy in 3 citrus groves near Dade City, Pasco County; 90 percent trees infested. Light in many nearby groves. (Baker).

YUMA SPIDER MITE (Eotetranychus yumensis) - CALIFORNIA - Heavy and damaging Temple orange trees in Indio, Riverside County. (Cal. Coop. Rpt.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Increasing rapidly in Yuma County citrus groves. Infestations heavier than last year; controls necessary. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Heavy infestations required increased controls in citrus areas of Yuma County. (Ariz. Coop. Sur.).

SMALL FRUITS

GRAPE LEAF SKELETONIZERS (Harrisina spp.). - FLORIDA - First H. americana eggs of season noted on dooryard plantings of Lake Emerald hybrid grape at Gainesville. (Mead). NEVADA - First H. brillians adults of season observed April 15 in Las Vegas, Clark County, about one month earlier than usual. (Zoller).

GRAPE PHYLLOXERA (Phylloxera vitifoliae) - ALABAMA - Light on new leaves of grapes in several central area home plantings. (McQueen).

SPIDER MITES - NEW JERSEY - Tetranychus spp. observed on strawberries in Hammonton area. (Ins.-Dis. Newsltr.). VIRGINIA - Few T. atlanticus observed on strawberries on Eastern Shore. Problem could develop should dry weather continue. (Hofmaster). FLORIDA - Eotetranychus clitus a problem on blackberry at Pine Hills, Orange County. (Ware, Apr. 4).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - First small larvae of year on evergreens in Stillwater area of Payne County. (Okla. Coop. Sur.).

A LEAF ROLLER MOTH (Argyrotaenia sp.) - CALIFORNIA - Medium on roses at Encinitas, San Diego County. (Cal. Coop. Rpt.).

A PLUME MOTH (Platyptilia antirrhina) - CALIFORNIA - Larvae heavy and boring on snapdragon stems at Sacramento, Sacramento County. (Cal. Coop. Rpt.).

AN APHID (Neophyllaphis araucariae) - FLORIDA - Adults infesting all podocarpus inspected at nursery in Ft. Lauderdale. (Clinton, Apr. 18).

ARMORED SCALES - ALABAMA - Fiorinia theae crawlers heavy on camellia and Burford holly and Unaspis euonymi crawlers heavy on euonymus in Lee County. (McQueen). CALIFORNIA - Aspidiotus nerii medium on New Zealand flax nursery stock at Los Banos, Merced County. A. camelliae heavy on camellia nursery stock at Vista and Encinitas, San Diego County. (Cal. Coop. Rpt.).

SOFT SCALES - CALIFORNIA - Carulaspis minima heavy on plum juniper nursery stock and Lecanium cerasorum medium on dogwood nursery stock at Napa, Napa County. (Cal. Coop. Rpt.). FLORIDA - All stages of Saissetia coffeae severe on sago-palm at nurseries in Sharpes and Cocoa, Brevard County. (Levan, Apr. 21). MARYLAND Ceroplastes sp. heavy on English holly at College Park, Prince Georges County. (U. Md., Ent. Dept.).

LONG-TAILED MEALYBUG (Pseudococcus adonidum) - CALIFORNIA - Heavy on Oregon-grape nursery stock at Encinitas, San Diego County. (Cal. Coop. Rpt.).

WHITEFLIES - ALABAMA - Adult emergence heavy on gardenia and other plants in Lee and other central counties. New generation crawlers in large numbers on new leaves. (Leeper et al.).

NATIVE HOLLY LEAF MINER (Phytomyza ilicicola) - VIRGINIA - Adults emerging on Eastern Shore. Damage to holly extensive in 1966; should be severe in 1967. (Hofmaster).

FOREST AND SHADE TREES

EASTERN TENT CATERPILLAR (Malacosoma americanum) - VIRGINIA - Small tents visible on Eastern Shore. (Hofmaster). Many wild cherry trees with 10-15 large tents show moderate defoliation in central area. (Isakson). CONNECTICUT - Hatching observed April 21 at East Windsor and Naugatuck. (Johnson et al.). NEW YORK - Emergence observed April 14 in Ontario County. (Smith). OHIO - Infestations on wild cherry, apple, and crab apple earliest and heaviest yet in southwestern and south-central areas. (Cooley). Development slow in northern area. In Mohican State Forest, Ashland County, larvae small but common on wild cherry trees. Webbing more common in this area than last year; up to 20 or more colonies per tree. (Rose). OKLAHOMA - Larvae preparing to pupate in Major County. (Okla. Coop. Sur.).

A TUSsock MOTH (Hemerocampa sp.) - CALIFORNIA - Larvae heavy on salt-bush in Carpinteria area, Santa Barbara County. (Cal. Coop. Rpt.).

MAY BEETLES (Phyllophaga spp.) - ARKANSAS - Continued to feed on deciduous trees in southeast area; noneconomic in most cases. Little or no feeding signs observed in remainder of State. (Ark. Ins. Sur.).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEW MEXICO - Moderately heavy populations feeding on elm trees in Belen area, Valencia County. (Heninger).

A LEAF-MINING WEEVIL (Odontopus calceatus) - OHIO - Adults active and feeding on buds and unfolded foliage of yellow-poplar in Mohican State Forest, Ashland County, and Dillon Reservoir State Park, Muskingum County. (Donley, Apr. 20).

A BARK BEETLE (Xylosandrus compactus) - FLORIDA - Adults associated with camphor twigs April 1 and killing twigs of redbay at Gainesville, April 15. These new host records. (Hetrick).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - OHIO - Populations were very damaging in the Mohican State Forest, Ashland County, last year; situation apparently will be repeated in 1967. Large percentage of pine trees currently infested and many show damage from previous years' feeding, (Rose). MICHIGAN - High populations anticipated this year in Lower Peninsula. Larval activity noted in Livingston County. (Dowdy).

PINE SPITTLEBUG (Aphrophora parallela) - ALABAMA - Nymphs heavy on 6 to 20-foot loblolly pine trees in several isolated locations southeast of Tuscaloosa, Tuscaloosa County; south of Marvin in Lee and Bullock Counties; and north of Clayton in Barbour County. Spittle masses ranged 5-20 on numerous pines in valley areas; only occasional infestations noted on higher ground. (McQueen).

TULIPTREE SCALE (Toumeyella liriodendri) - OHIO - Large numbers overwintered in Ashland and Muskingum Counties. High populations expected on yellow-poplar this season. (Donley, Apr. 20).

MAN AND ANIMALS

MOSQUITOES - MINNESOTA - During week ending April 22, 1,388 larval samples collected. Dominant species were Aedes excrucians, Culiseta inornata and C. nersitans. Cool weather has delayed development. Approximately 14,000 acres were treated by air and 4,000 acres with ground equipment. (Minn. Ins. Rpt.). WISCONSIN - Aedes spp. larvae numerous and full grown in floodwater pools in Sauk County. No pupation observed. (Wis. Ins. Sur.). MICHIGAN - Aedes spp. larvae relatively few to very numerous in ponds sampled April 26 in Washtenaw, Livingston, Ingham, and Shiawassee Counties. Approximately 70 percent late instars, 20 percent early instars, and 10 percent pupae. (Dowdy). FLORIDA - Aedes taeniorhynchus very light in most light traps April 7; however, 2,048 females caught night of April 11 at Big Pine Key, Monroe County. (Fla. State Bd. of Health). LOUISIANA - Larval collections in Jefferson Parish contained Culex pipiens quinquefasciatus, C. restuans, and C. salinarius. Mansonia perturbans dominated in light trap collections throughout parish. (Stokes). CALIFORNIA - Above normal rainfall may result in above normal numbers of Culex tarsalis larvae; widespread intensified surveillance for C. tarsalis being established. (Keh).

HOUSE FLY (Musca domestica) - FLORIDA - Serious for past 2 weeks in western and northwestern Gainesville, Alachua County. This is worst fly problem experienced by county health officer. Breeding traced to poultry droppings dumped on 15-20 acre area 2.5 miles southwest of Gainesville. Breeding grounds treated. (Strayer et al.). GEORGIA - Large numbers around caged layer operations in northern area. (Smith). MISSISSIPPI - Increasing around feed mills and in commercial chicken houses in east-central area. (Dinkins). OKLAHOMA - Averaged 6 per Scudder grid in barns in Payne County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - IDAHO - Several hundred adult males observed clustered on a car April 23 in Moscow, Latah County. (O'Keefe). UTAH - Active at Providence, Cache County, during warmer days in late March. (Hanson, Knowlton).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Approximately 350 flies per animal observed on beef cattle in Lowndes and Oktibbeha Counties. (Dinkins). OKLAHOMA - Decreased due to cool weather in many areas. Counts per head averaged 400 in Major, 200 in Ellis, and up to 100 in Payne Counties. Light to moderate in Mayes, Cleveland, and Cotton Counties; heavy in Garvin County. (Okla. Coop. Sur.).

CATTLE GRUBS (Hypoderma spp.) - NORTH DAKOTA - Only 12 percent of grubs have dropped from infested animals examined at a Dickinson livestock auction. At this time last year 50 percent had emerged. (Brandvik). COLORADO - H. lineatum eggs found on hair of cattle in northern Weld County. (Hantsbarger).

SCREW-WORM (Cochliomyia hominivorax) - Total of 13 cases reported in the U.S. April 23-29 as follows: TEXAS - Presidio 2, Kinney 1, Uvalde 1, Frio 1, Live Oak 1, Jim Wells 1, Brooks 1, Kenedy 1, Starr 1, Willacy 2. CALIFORNIA - San Diego 1. Total of 27 cases reported in portion of Barrier Zone in Republic of Mexico April 16-22 as follows: Territorio sur de Baja California 6, Sonora 7, Chihuahua 1, Coahuila 3, Nuevo Leon 1, Tamaulipas 9. Three cases reported in Mexico south of the Barrier Zone. Barrier Zone is area where eradication operations are underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released April 23-29: Texas 26,008,000, Arizona 50,000, California 200,000, Mexico 106,500,400. (Anim. Health Div.).

AN EARTHWORM MITE (Fuscuropoda agitans) - CALIFORNIA - All stages of this and Caloglyphus sp. heavy in a worm barrel at Sutter Creek, Amador County. (Cal. Coop. Rpt.).

TICKS - OKLAHOMA - Amblyomma americanum adults and nymphs continue to annoy vacationers in eastern areas. Ranged 600-700 per head on yearlings and up to 1,000 per head on cows: Ixodes scapularis ranged 15-20 per head. These species and Dermacentor albipictus present on deer; A. americanum dominant. Death of fawns noted due to blood loss and reaction to ticks. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - NEVADA - Adults heavy in many alfalfa fields in Mason and Smith Valleys, Lyon County, earlier, but now very light in fields infested with pea aphid. No larvae observed. (Batchelder). NEW MEXICO - Abundant in alfalfa infested with pea aphid in northern Dona Ana County. No larvae observed. (Nielsen). COLORADO - Hippodamia convergens adults more active this period. (Jenkins). INDIANA - Microneisea spp. and Stethorus spp. common in apple and peach trees in Vincennes area. Other beneficial species also present. (Dolphin, Apr. 24). ALABAMA - Adults and larvae of H. convergens and Coleomegilla maculata fuscilabris heavy and feeding on aphids infesting clover and other crops in Mobile County and generally throughout State. Olla abdominalis adults and larvae feeding on aphids infesting turnips and smartweed in St. Elmo area, Mobile County; appearing on pecan trees in Barbour, Lee, and other southern and central counties. (Diller et al.). FLORIDA - H. convergens most common lady beetle during April on rye, oats, and alfalfa at Gainesville, and on rye, wheat, and oats in Washington and Jackson Counties. (Mead et al.).

GOLDEN-EYE LACEWING (Chrysopa oculata) - ALABAMA - Large numbers of adults and larvae feeding on aphids infesting clovers in Mobile, Barbour, and Lee Counties; also general throughout State. (Diller et al.).

AN ICHNEUMON WASP (Bathyplectes curculionis) - COLORADO - Adults of this alfalfa weevil parasite noted April 23 in Larimer and Weld County area. Numbers highly variable throughout area. (McLaughlin).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - NORTH DAKOTA - Egg development retarded due to below normal temperatures. Very few eggs in segmented stage and up to 16 percent desiccated. Infestations generally noneconomic and light throughout most of State. Not expected to be a problem this season. (Brandvik). MINNESOTA - No egg development noted in central and east-central districts. (Minn. Ins. Rpt.).

CEREAL LEAF BEETLE (Oulema melanopus) - INDIANA - First eggs of season found in wheat April 20 in New Carlisle area. Adult counts in wheat ranged 80-600 per 100 sweeps (average 250) April 21. (Shade). MICHIGAN - Adult activity in wheat and grasses reduced due to cool weather. Eggs averaged 22 per square yard in Berrien County research wheat plot April 18. (Haynes).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - Larvae destroyed one-third of stand of corn on 50-100 acres in Crenshaw County. (Reeder). Larvae caused heavy damage to old 7-acre planting of strawberries in Belleville Community, Conecuh County. (Lemons et al.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Moth emergence continues light throughout State as result of continued cool weather. Emergence from cages placed over cotton trash at ends of fields in Maricopa County showed 6 moths at Red Mountain Ranch, 3 in Deer Valley, and 2 on East Baseline Road. (Ariz. Coop. Sur.).

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larvae taken on orange jasmine at Ft. Lauderdale, Broward County, for new host record. (Runfeldt, Apr. 24.).

HAWAII INSECT REPORT

Cucurbits - All stages of LEAF MINER FLIES (Liriomyza spp.) medium to heavy in watermelon and cantaloup fields in Kahuku, Oahu. Intensive chemical control in progress. (Sato). Larvae of MELON FLY (Dacus cucurbitae) caused medium to heavy damage on cucumbers in Waimanalo, Oahu. Control hampered by heavy rains. Increasing on cucurbits on Kauai at Lawai, Kalahoe, Hanapepe, Kaumakani, and Waimea. (Oshiro, Au).

General Vegetables - BEET ARMYWORM (Spodoptera exigua) larvae light to medium in green onion fields at Koko Head, Oahu; light and scattered on green onions at Waimanalo. (Nakao). SOUTHERN GARDEN LEAFHOPPER (Empoasca solana) nymphs and adults heavy, 20 adults per sweep, in 1 acre of yard-long beans at Waimanalo, Oahu. SWEETPOTATO VINE BORER (Omphisa anastomosalis) larvae medium on small plantings of sweetpotato at Koko Head, Oahu. (Nakao).

Fruits and Nuts - PURPLE SCALE (Lepidosaphes beckii) and FLORIDA RED SCALE (Chrysomphalus aonidum) heavy, mostly on fruits, of several citrus trees at Waianae, Oahu. (Harvey). An ARMORED SCALE (Phenacaspis cockerelli) medium to heavy on coconut trees in scattered areas of Kailua-Kona, Hawaii Island. (Yoshioka).

Ornamentals - Nymphs and adults of a PLATASPID BUG (Coptosoma xanthogramma) moderate on mucuna at Hilo, Hawaii. This is a new island record. Previously found only on Oahu. (Yamayoshi et al.).

Households and Structures - FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus)- Light trap collections indicate large swarms occurring for first time this year in many areas of Oahu. (Haw. Ins. Rpt.).

Miscellaneous Pests - Moderate infestation of GIANT AFRICAN SNAIL (Achatina fulica) detected at Wahiawa, Kauai. Surveys to ascertain extent of infestation continuing. (Au).

LIGHT TRAP COLLECTIONS					
	Temperature (° F./inches)	Precipitation (inches)	Type of trap	Agric. lesion 0 = no insect 1 = incipient BL = blacklight I = mercury vapor	Carpenter (codling moth) Chorlaerctis (army cutworm) Lathraea (leaf-miner) Pantia (wheat fly) Rhinoceros (beetle) H. zea (cotton worm) Heliothis (tobacco budworm) H. zea (bollworm) Lophocarenum (tomato fruitworm) Lophocarenum (alfalfa) Lophocarenum (bean webworm) Lophocarenum (bean webworm) Manduca (cucumber hornworm) Manduca sexta (tobacco hornworm) Ostrinia nubilalis (European corn borer) Pyralis nigrilinea (yellow-striped armyworm) Pseudaletia unipuncta (cane worm) Spodoptera exigua (bean webworm) Trichoplusia ni (cabbage looper)
FLORIDA Gainsville 4/27 Sanford 4/18-21				4	
ILLINOIS (County) Champaign 4/20-26	31-65	0.42		1	
MISSISSIPPI Stoneville 4/22-28	45-86	0.50	2BL	17	
Rolling Fork 4/22-28	43-88	0.10	BL	5	
Tunica 4/22-28	43-81	3.80	BL	38	
MISSOURI Portageville 4/22-28				5	
SOUTH CAROLINA Charleston 4/24-30	40-88	0.58	BL	2	
TENNESSEE (Counties) Maury 4/15-24 Robertson 4/18-24 Cumberland 4/18-24 Greene 4/18-24 Knox 4/18-24 Johnson 4/18-24				2 2 2 6 2 2	
TEXAS Brownsville 4/21-28 Waco 4/22-28	74-93	Trace	2BL BL	2 46	

WEATHER OF THE WEEK ENDING MAY 1

HIGHLIGHTS: Cool, wet week except dry in Florida and in Southwest. A late-season blizzard came to northern Great Plains and killer tornadoes to Minnesota and Iowa.

PRECIPITATION: Generous rains fell from northeastern Texas to the middle Atlantic coast early in the week. Meanwhile, a Pacific storm caused rain along the coast with snow inland, over the mountains, and to portions of the western Plains. Some southern localities experienced thunderstorms with hail and strong gusty winds. A late-week storm moved from Colorado to the Great Lakes causing blizzards in Montana, the Dakotas, and Nebraska. Snow accumulated to 1 to 2 feet in South Dakota and winds gusting to 70 m.p.h. or more. Tornadoes occurred from Texas to Minnesota killing 17 persons and injuring 100 in Iowa and Minnesota. Damage estimates are incomplete. No rain or only light sprinkles fell over Arizona and eastward to the western portions of Oklahoma and Texas. Winds caused blowing dust in the plains in Colorado on several days. Central and southern Florida remained very dry having received no important rain during the last several weeks. The drought in southern Puerto Rico became increasingly severe. The snow pack over the western mountains exceeded previous records for this time of year.

TEMPERATURE: Temperatures west of the Rocky Mountains averaged below normal for the fifth consecutive week. East of the Rockies, it was the coolest week since March. This was the second cool week over the northern and central Great Plains. Immediately south of the Ohio River, the cool weather ended a 4 or 5-week warm spell; farther south, it followed 7 or 8 consecutive warm weeks. Temperatures averaged 10° or more below normal in much of the Far West and the Montana-North Dakota area and also in the Ohio Valley and the Virginias. The Florida peninsula has averaged slightly warmer than normal for the past 6 weeks. Freezing temperatures occurred over the southern Rocky Mountains, the central plains, and the Appalachians as far south as northern Georgia. Rapid warming over the central Great Plains pushed the temperature at Sioux City, Iowa, to 87° on Sunday afternoon. (Summary supplied by Environmental Data Service, ESSA).

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

STONE-FRUIT TREE BORER (Cerambyx dux (Faldermann))

Economic Importance: The stone-fruit tree borer is a serious pest of apricot, peach and almond in Jordan, Lebanon and Israel. In the vicinity of Jerusalem, apricot and peach production, up to an altitude of about 2,600 feet, is not practical if rigid control measures are not followed. Larvae are mainly trunk borers and seldom penetrate the roots. The most frequently attacked part of the tree is the trunk below the crotch. In heavily infested trees, this part is riddled with larval borings. Thirty to 50 larvae of different sizes and ages may be found in a heavily infested tree. As a result, yield is greatly reduced.

Distribution: Cyprus, Greece, Iran, Israel, Lebanon, Jordan, Syria, Turkey, and southern USSR.

Hosts: Apricot, almond, peach, plum and walnut. Oak and to a less extent beech are the important hosts in the forested areas.



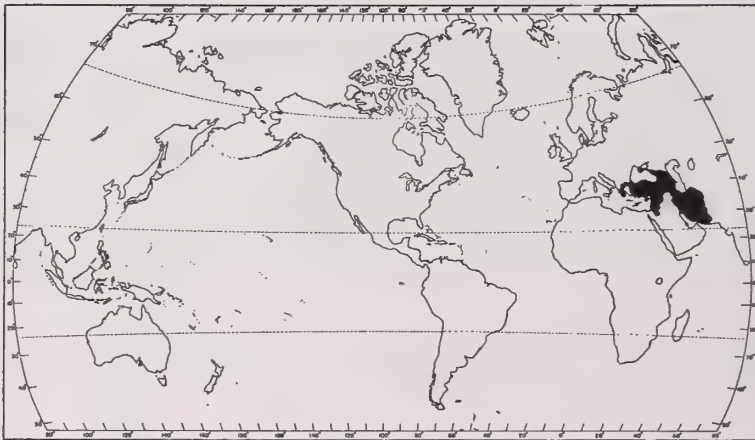
Vertical section of almond log showing borings of larvae of C. dux. (Redrawn, by permission, from Bulletin of Entomological Research 23(2), 1932.).

Life History and Habits: Under field conditions in Jordan and Israel, the biology is as follows: Adults are common from mid-May to mid-June. Mating occurs a few days after emergence. Females deposit 30-40 eggs in cracks and crevices of tree trunks and branches. Mature trees are preferred for oviposition. Young larvae feed as soon as they emerge and throw out frass through holes made in the trunk. In a heavily infested tree, heaps of frass appear around the base. The larva prepares a pupal cell within a tunnel by clogging the end with frass. The complete life cycle requires about 2 years as follows: Egg 1-3 weeks (May or June), larva 15-16 months from June of one year to August or September of the next, pupa 1-2 months (August through November), dormant adult within pupal cell 7 months (November to May).

Description: EGG - Length 4 mm., width 2 mm. Oval, markedly pointed at one end. Color dirty white. Surface roughened. LARVA - When full grown length 55-65 mm. Small, brown head invaginated into prothorax and containing two strongly developed and powerful mandibles. Prothoracic segments broadest; body tapers gradually to anal segment which is narrowest. Prothorax rising at 45 degree angle from head; used with head to push frass out of tunnels. Young larva closely resembles full-grown specimens except for size. PUPA - Length 45-55 mm. Dirty white but darkening later. ADULT - Length 19-45 mm. Head with longitudinal grooves between antennae, rising between the eyes and the depression behind the elevation. Eyes very large, covering all the lateral side of the head. Antennae of male slightly longer than body or equal to its length, that of female reaching to middle of elytra. Elytra black, with short delicate or soft hairs, bearing a type of powdery coating, lower side with somewhat more noticeable pubescence.



Adult of Cerambyx dux



General Distribution of Cerambyx dux

Selected References: 1. Jolles, P. 1932. Bul. Ent. Res. 23(2):251-256.
2. Plavilstshikov, N. N. 1940. Fauna SSSR, Coleopterous Insects. 22:97 (Akad. Nauk, SSSR, Zool. Inst.).

Prepared in Survey and Detection
Operations in cooperation with
other ARS agencies.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
17(18):373-374, 1967

LOOK FOR THESE IN SMALL GRAINS

- 375 -



Senn Pest Look for an oval, tan to brownish stink bug on heads or stems of small grains. Margins of adult abdomen have alternating dark and light areas. This insect can be easily seen but often drops quickly to the ground when disturbed. Can be taken readily in a sweep net. Often congregates under windrows of straw or other collections of debris.

Hosts include wheat, barley, rye, oats, millet, sorghum, spurge, sunflower, flax, clover and thistle. This pentatomid occurs in Afghanistan, Crete, Greece, Iran, Cyprus, Iraq, Israel, Jordan, Lebanon, West Pakistan, Syria, Turkey, and USSR (southern). Eurygaster integriceps Puton is one of the most destructive pests of grain in the Middle East. Adults feed on stems of young plants and adults and nymphs damage kernels. Entire wheat crops may be destroyed; yield is often reduced 25 percent or more. Senn pest also affects quality of flour and germination. Heavy damage has been reported from areas of USSR. For more details see CEIR 7(5):88.

Cereal Leaf Miner

Yellowed or brown patches in grain fields may be indicative of presence of *Syringopais temperatella* (Led.). This lepidopterous miner feeds within the leaves, leaving the epidermis transparent. Larvae are about 5 mm. in length when full grown, and grayish yellow in color. Wing expanse of moth is from 12-18 mm. Forewings are brown, thorax and abdomen black.

Wheat, barley, and oats are preferred hosts. The pest occurs in Cyprus, Turkey, Lebanon, Syria, Jordan, Iraq, Israel, and Iran. Larvae mine leaves from November to April; may kill entire plantings. Major pest of cereals in Middle East; annual loss in Jordan 15-20 percent; 20-25 percent in Turkey; severe losses reported from other areas. As many as 60-90 larvae per plant have been reported in Iran. For more details see CEIR 9(38):873.

Senn pest and cereal leaf miner are not known to occur in the United States.

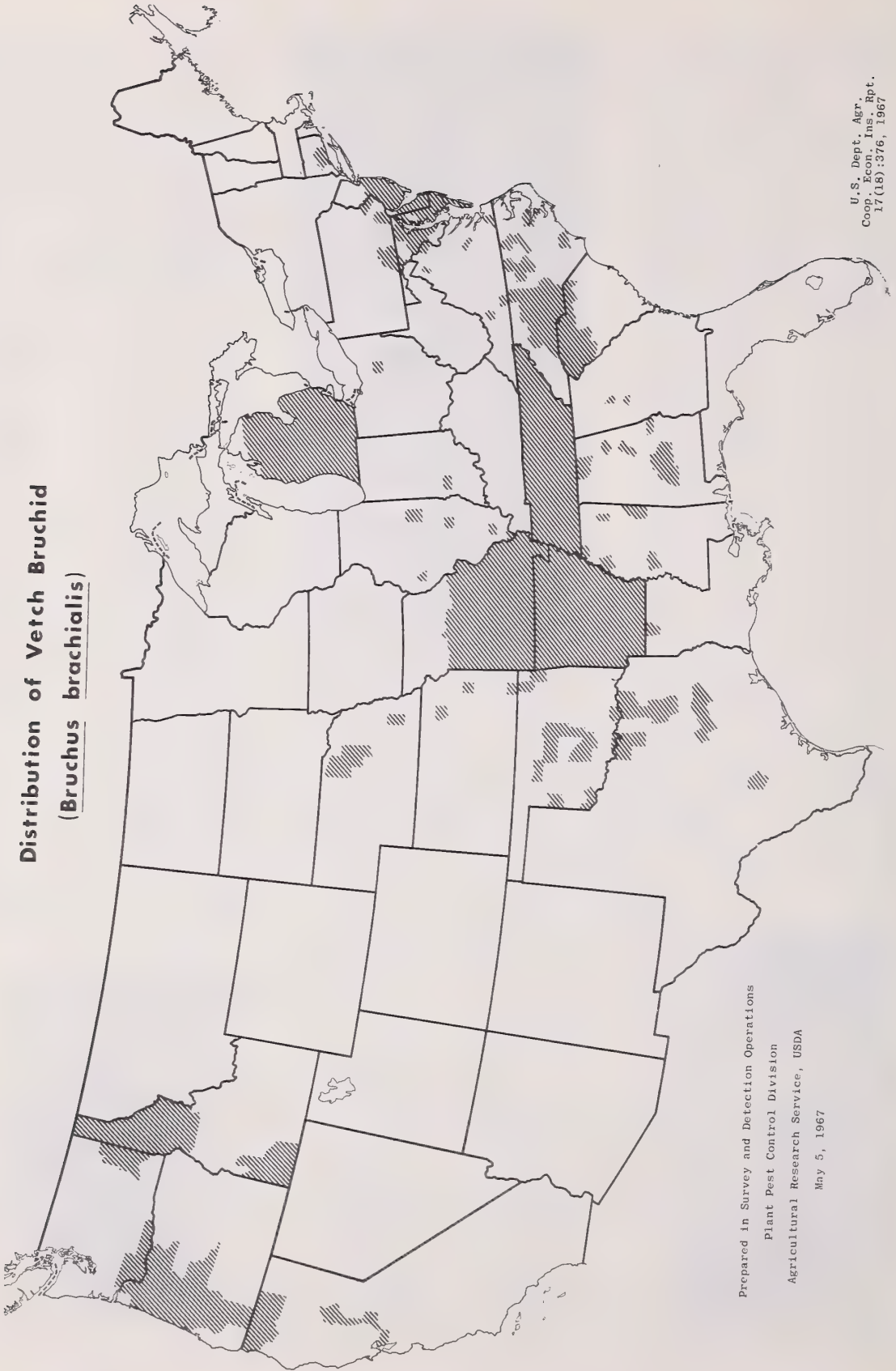


Cereal Leaf Beetle

Presence of this introduced pest in grain fields may be first apparent from a streaked appearance of the leaves. In heavy infestations, plants appear yellowish white. Adults of *Oulema melanopus* (L.) are approximately 5 mm. in length. Wing covers and head are metallic, bluish black. Legs and thorax light reddish brown. Larva is a little longer than adult. It is yellowish, with brownish black legs. Coloring is obscured by a covering of fecal matter. Adults may be taken in sweep nets on warm spring days.

This chrysomelid attacks small grains and other grasses. Distribution includes Tunisia, Turkey, Cyprus, Israel, Iran, Morocco, and Europe east to Siberia. Also occurs in a small area of U. S. and has been reported in Canada. Serious damage to small grains has been reported in areas of Europe, and in areas of Michigan where the insect was discovered in 1962. The pest now occurs in wide areas of Michigan, Indiana, and Ohio; also reported from 3 counties in northeast Illinois. A cooperative State-Federal control program is in operation against the pest.

Distribution of Vetch Bruchid
(Bruchus brachialis)



Prepared in Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service, USDA
May 5, 1967

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Corp. Econ. Insect Rpt.
17 (18): 376, 1967

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